

USSN 09/717,478
ANDERSON *et al.*
AMENDMENT AND RESPONSE

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1. (Twice Amended) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface; and

uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface, wherein the reader head comprises:

a reader head body;

a light emitting diode;

a first fiberoptic bundle optically coupled to the light emitting diode;

a photodetector;

a second fiberoptic bundle optically coupled to the photodetector;

an aperture in the reader head body; and

a plurality of fiberoptic conductor ends arranged in a sigmoidal distribution in the aperture, wherein: a first portion of the fiberoptic conductor ends comprises fiberoptic conductors of the first fiberoptic bundle; and a second portion of the fiberoptic conductor ends comprises fiberoptic conductors of the second fiberoptic bundle.

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5. (Amended Four Times) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

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measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface; and

uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface, wherein the reflectance reader comprises:

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the reader head comprising:

a reader head body;

a light emitting diode;

a first fiberoptic bundle optically coupled to the light emitting diode, and adapted to transmit light from the light emitting diode;

a photodetector adapted for generating a reflection signal in response to reflected light;

a second fiberoptic bundle optically coupled to the photodetector, and adapted to transmit an amount of reflected light to the photodetector;

an aperture in the reader head body; and

a plurality of fiberoptic conductor ends arranged in a sigmoidal distribution in the aperture, wherein: a first portion of the fiberoptic conductor ends comprises fiberoptic conductors of the first fiberoptic bundle; and a second portion of the fiberoptic conductor ends comprises fiberoptic conductors of the second fiberoptic bundle, the plurality of fiberoptic conductor ends being further arranged in a substantially co-planar relationship; and a reader housing comprising:

a housing body; and

a cassette slot adapted to receive a test device.

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9. (Amended Twice) The method of claim 1, wherein the method further comprises determining an amount of an analyte in a sample by correlating a parameter with the amount of analyte in the sample.

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11. (Amended Three Times) The method of claim 1, wherein said first wavelength is selected to reflect equally from all regions of the test strip, whereby said second amount of light is indicative of a test region of the test strip.

12. (Amended Three Times) The method of claim 1, wherein said second wavelength reflects from a test region of the test strip, whereby said third amount of light is indicative of an amount of a label at the test region.

17. (Amended) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface;

uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface; and

moving the reader head to a second position over the surface comprising the image;

measuring a fourth amount of light reflected from the second position on the surface comprising the image;

uniformly illuminating the second position on the surface with light of the first wavelength, and measuring a fifth amount of light reflected from the surface;

uniformly illuminating the second position on the surface with light of the second wavelength, and measuring a sixth amount of light reflected from the surface; and

determining a parameter correlated with an intensity or shape of the image.

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18. (Amended) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface;

uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface; and

repeating each of the measuring and illuminating steps at additional positions on the surface until the image on the surface of the test strip is scanned; and

determining an intensity or shape of the image.

20. (Amended) A method for reading a surface of a test strip comprising an image, comprising:

with a reader head in a reflectance reader at a first position over the surface comprising the image, measuring a first amount of light reflected from the first position of the surface comprising the image;

transmitting light of a first wavelength onto the first position of the surface at an angle normal to the surface, and measuring a second amount of light reflected normally from the surface;

transmitting light of a second wavelength onto the first position of the surface at an angle normal to the surface, and measuring a third amount of light reflected normally from the surface;

moving the reader head to a second position over the surface comprising the image;

measuring a fourth amount of light reflected from the second position on the surface comprising the image;

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transmitting light of the first wavelength onto the second position of the surface at an angle normal to the surface, and measuring a fifth amount of light reflected normally from the surface;

transmitting light of the second wavelength onto the second position of the surface at an angle normal to the surface, and measuring a sixth amount of light reflected normally from the surface; and

determining a parameter correlated with an intensity or shape of the image.

21. (Amended) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface;

uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface; and

moving the reader head in a stepwise fashion to a plurality of positions over the test strip, wherein three light measurements are made at each of the plurality of positions to determine an intensity or shape of the image.

29. (Amended) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface;

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uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface; and emitting the light of the first wavelength from a light emitting diode;

transmitting the emitted light of the first wavelength through a first fiberoptic bundle to the surface of the test strip; and

transmitting the second amount of light reflected from the surface of the test strip through a second fiberoptic bundle to a photodetector.

30. (Amended) A method for reading a surface of a test strip comprising an image, comprising:

moving a reader head in a reflectance reader to a first position over the surface comprising the image;

measuring a first amount of light reflected from the surface comprising the image;

uniformly illuminating the surface with light of a first wavelength, and measuring a second amount of light reflected from the surface;

uniformly illuminating the surface with light of a second wavelength, and measuring a third amount of light reflected from the surface; and emitting the light of the first wavelength from a light emitting diode;

transmitting the emitted light of the first wavelength through a first fiberoptic bundle to the surface of the test strip; [and]

transmitting the second amount of light reflected from the surface of the test strip through a second fiberoptic bundle to a photodetector;

emitting the light of the second wavelength from a light emitting diode;

transmitting the emitted light of the second wavelength through a third fiberoptic bundle to the surface of the test strip; and